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TB CARE I

TB CARE I - Cambodia

**Year 2
Quarterly Report
July-September 2012**

October 30, 2012

Quarterly Overview

Reporting Country	Cambodia
Lead Partner	JATA
Collaborating Partners	FHI, KNCV, MSH, WHO
Date Report Sent	30 October 2012
From	Jamie Tonsing
To	Chantha Chak
Reporting Period	July-September 2012

Technical Areas	% Completion
1. Universal and Early Access	93%
2. Laboratories	100%
3. Infection Control	75%
4. PMDT	96%
5. TB/HIV	100%
6. Health Systems Strengthening	100%
7. M&E, OR and Surveillance	62%
Overall work plan completion	89%

Most Significant Achievements

From 2-15 August 2012, TB CARE I team coordinated and facilitated the second Joint Program Review in Cambodia (after a gap of six years). About 20 international experts and 40 national experts from various agencies participated in the review of the program. Report of the review is being finalized and will be disseminated after that. The report will also serve as an important reference document for the NTP's application to future funding opportunities.

An internet based SMS system for delivering sputum smear test results to health center (HC) staff and community TB volunteers is being piloted in Kampong Cham province. The system also serves as a live database allowing supervisors to monitor and follow-up with TB labs in case of delays

<http://tblab.cenat.gov.kh>. The proportion of smear test results delivered using the SMS system increased from 85% in the previous quarter to 97% this quarter. The turnaround time for delivery of test results has decreased dramatically over time - from 15 days in the first 3 months (Dec-Feb) to 4 days during this quarter. A review is planned in APA3 to document if this has resulted in earlier initiation of treatment.

During the quarter, 30 TB patients (21 of them smear positive) were diagnosed through routine case finding activities supported by TB CARE I in seven prisons. For the project year (Oct-Sept), 140 TB cases were diagnosed representing 3% of inmates in these prisons. Treatment success rate of 86% achieved in 2012.

MSH staff visited Cambodia to provide orientation to the newly engaged MSH local consultant, complete the pending e-TB manager customization work, and train in-country staff on e-TB manager pilot implementation. With the new local staff in position and increased efforts to speed up activities, three pilot sites are expected to begin using e-TB manager for PMDT from Jan 2013.

Two operational districts (OD) began implementation of Isoniazid Preventive Therapy (IPT) during the quarter bringing to total three ODs that are now piloting IPT in children - Kong Pisey in June 2012; Prey Veng in July 2012 and Kampong Cham in Sept 2012. During the quarter, Kong Pisey OD identified the first 66 children (F=35) eligible for IPT and started them on treatment.

Overall work plan implementation status

Overall, 90% of activities were completed as planned. Some activities such as participation at the UNION conference and new activities approved through MoT in July 2012 are scheduled for completion later.

Technical and administrative challenges

Lack of leadership for PPM in Kampong Cham provincial health department has hampered progress, OR studies could not be completed due to competing interest and misperception as additional burden by some trainees, and e-tb manager implementation delayed partly due to difficulties in recruiting staff. Details in other sections of the report. TB CARE I continues to increase efforts to resolve these challenges.

In-country Global Fund status and update

NTP is heavily reliant on the Global Fund Round 7 grant, which will come to an end in March 2014. TB CARE I will continue to support NTP efforts to mobilize resources from future funding opportunities of the Global Fund and other source of funding, including through increased Government contribution.

Quarterly Technical Outcome Report

Technical Area 1. Universal and Early Access								
Expected Outcomes	Outcome Indicators	Baseline		Target		Result	Highlights of the Quarter	Challenges and Next Steps to Reach the Target
		Data	Year	Data	Year	Y2		
1.1 Increased demand for and use of high quality TB services and improve the satisfaction with TB services provided (Population/Patient Centered Approach)	1.1.3 Patients' Charter is implemented Indicator Value: Score (0-3) based on definition	0	2010	2	2012	2	CENAT, an external local consultant and WHO/TB CARE I team had completed the Patient Centered Approach (PCA) baseline study and implementation using two tools (Quote TB Light and Patients' Charter) in previous quarters. In this quarter, the team provided feedback to the health centers on patients' rankings of the <u>importance</u> of various dimensions of TB care and their scores on the <u>performances</u> with respect to each of the dimension. The team also drafted and submitted the implementation report.	An end line survey is planned in APA3 to assess the impact of using the tools in improving the quality of TB care.
	1.1.4 Referral hospitals in project sites judged to have read chest X-rays correctly by the expert cross reader (85% correct results)	NA (new indicator)	2010	85%	2012	86%	TB CARE I is supporting activities to improve capacity for diagnosis of smear negative TB in 11 provinces. During the quarter, 1028 TB smear negative TB suspects were referred by health centers to the referral hospitals (RH) for further evaluation and x-ray examination. Of those, 369 cases were diagnosed as smear negative TB. The quality of x-ray reading has improved during this quarter. The agreement rate in reading of x-rays between RH doctors and cross reader is 86.5%, increased from 81.5% in the previous quarter, while the annual result is 86%, surpassing the annual target of 85%	Planned for continuation in APA3
	1.1.5 Updated manual of the NTP is developed Description: The current NTP manual will be revised to include recent WHO guidelines including 2009 treatment guidelines, PMDT, Childhood TB, 3Is etc.,	No	2011	Yes	2012	Yes	An external consultant, Dr. Kalpesh Rahevar, worked with WHO/TB CARE team to update the comprehensive NTP manual from 22 August to 6 September 2012. PMDT component was updated and translated as a separate guideline document. SOP on MDR-TB management was also drafted, based on the PMDT guidelines.	CENAT team will review, finalize and translate the manual. This will then be used for future trainings of NTP staff.

1.2 Increased quality of TB services delivered among all care providers (Supply)	1.2.5 TB patients reported in prisons among the total number of prisoners in TBCARE areas (number & %) Description: This indicator measures the performance of the prisons program with	101/3453 (3%)	2010	> 4%	2012	140/4901 (3%)	During the quarter, 30 TB patients (21 of them smear positive) were diagnosed through routine case finding activities in the seven prisons supported by TB CARE I. For the project year (Oct-Sept), 140 cases of TB were diagnosed representing 3% of inmates in the seven prisons. Treatment success rate was 86%	Planned for continuation in APA3
1.3 Reduced patient and service delivery delays (Timing)	1.3.2 Provider Delay Description: Number of days from sputum collection at Health Centers to receipt of lab results	NA (not reported)	2010	<5 days	2012	7 days	Starting in Dec 2011, TB CARE I is piloting Short Message Service (SMS) System for delivering sputum smear test results to health center (HC) staff and community TB volunteers. The pilot project covers four TB labs, 15 HC, and the community volunteers linked to the HC. Though the annual target to decrease the turnaround time to <5 days could not be achieved, it has decreased dramatically over time - from 15 days in the first three months (Dec-Feb) to only 4 days during this quarter.	Planned for expansion of geographic coverage in APA3

Technical Area 2. Laboratories

Expected Outcomes	Outcome Indicators	Baseline		Target		Result	Highlights of the Quarter	Challenges and Next Steps to Reach the Target
		Data	Year	Data	Year	Y1		
2.1 Ensured capacity, availability and quality of laboratory testing in country needed to support the diagnosis and monitoring of TB	2.1.3 TB laboratories participating in smear microscopy EQA program performing with over 95% correct results in TB CARE areas (number & %) Description: This indicator measures the quality of smear microscopy services	60/79 (76%)	2010	85%	2012	83% (276/333)	EQA performance during the quarter improved remarkably during this quarter - 92% (76/83) of participating labs had over 95% correct results. However, due to lower achievements in previous quarters, the annual target of 85% could not be achieved.	
2.2 Ensured the availability and quality of technical assistance and services	2.2.1 Technical assistance visits from a SRL through a formal link of memorandum of agreement	Yes (outside TBCARE)	2010	Yes	2012	Yes	Mr. Tetsuhiro Sugamoto from RIT/JATA, Tokyo visited Cambodia from 17-30 September to provide on the job training on media preparation for DST for second line drug and begin preparation for the evaluation of Fluorescence microscopy and Xpert implementation planned for 2013. The training on media preparation for DST was conducted in two batches: 19 - 20 Sept and 25-26 Sept 2012. Eight staff (F=4) from CENAT lab and partner organization attended the training.	

2.3 Ensured optimal use of new approaches to the laboratory confirmation of TB and incorporation in national strategic lab plans	2.3.1 New technologies have been introduced Indicator Value: Number for each technique below by Central, Provincial, district and Peripheral levels 1. GeneXpert (3) 2. LED microscopy (12)	2 GeneXpert and 12 LED planned	2011	3 GeneXpert and 12 LED (cumulative from Y1)	2012	3 GeneXpert and 12 LED (cumulative from Y1)	The existing 2 GX machines are in routine use for diagnosis of TB among target groups while the third GX instrument was procured during the quarter. This quarter (Quarter 3, 2012), 1058 suspects were tested with Xpert MTB/RIF. Among those, 212 (20%) had MTB positive and 27(2.6%) were also shown to be resistant to RIF. In addition, 19 Fluorescence Microscopes are in use in the country including 12 from TB CARE (9 in lab and 3 at CENAT for trainings).	
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Technical Area 3. Infection Control

Expected Outcomes	Outcome Indicators	Baseline		Target		Result	Highlights of the Quarter	Challenges and Next Steps to Reach the Target
		Data	Year	Data	Year	Y1		
3.2 Scaled-up implementation of TB-IC strategies	3.2.1 "TB IC core package" strategy has been adapted and adopted in TB CARE TB-IC project areas Indicator Value: Score (0-3) based definition.	1	2010	2	2012	2	TB-IC core package is being piloted in the country. NTP is conducting active case finding among risk groups, using GX for rapid diagnosis, and piloting SMS to decrease turn around time for lab results. In addition, implementation of the branded TB-IC communication strategy "SAKSIT" is progressing well.	From APA3, TB-IC practices will be monitored during supervisory visits using a checklist developed for the purpose.

Technical Area 4. PMDT

Expected Outcomes	Outcome Indicators	Baseline		Target		Result	Highlights of the Quarter	Challenges and Next Steps to Reach the Target
		Data	Year	Data	Year	Y1		
4.1 Improved treatment success of MDR	4.1.2 MDR TB patients who are still on treatment and have a sputum culture conversion 6 months after starting MDR-TB treatment Indicator Value: Percent Numerator: Number of MDR TB patients in a cohort who are still on treatment and had culture conversion latest at month 6 (had 2 negative sputum cultures taken one	NA (not reported)	2010	65%	2012	81% (42/52)	28 MDR-TB patients were enrolled on MDR-TB regimen during January-September 2011. Two of these MDR-TB patients have been lost to follow up. Among the 26 MDR-TB patients who are still on treatment, 25 patients have culture-converted while 1 patient is still culture positive at month 6. High culture conversion rate of 89% (25/28) achieved during this quarter. For the project year (Oct-Sep), 81% of MDR-TB patients on treatment had a sputum culture conversion at 6 months of treatment	







Technical Area		5. TB/HIV						
Expected Outcomes	Outcome Indicators	Baseline		Target		Result	Highlights of the Quarter	Challenges and Next Steps to Reach the Target
		Data	Year	Data	Year	Y1		
5.2 Improved diagnosis of TB/HIV co-infection	5.2.2 TB patients with known HIV status Indicator Value: Percent Numerator: Total number of all TB patients registered over a given time period who were tested for HIV (after giving	77%	2010	79%	2012	82% (32594/39670)	Target already reached. In the past calendar year (2011), 84% of the TB patients (excluding those who already had HIV testing) were referred for HIV testing and 97% of those who were referred were tested for HIV at VCCT. Thus, 82% of TB patients were tested for HIV.	






Technical Area	6. Health Systems Strengthening							
Expected Outcomes	Outcome Indicators	Baseline		Target		Result	Highlights of the Quarter	Challenges and Next Steps to Reach the Target
		Data	Year	Data	Year	Y1		
6.2 TB control components (drug supply and management, laboratories, community care, HRD and M&E) formed integral part of national plans, strategies and service delivery of these	6.2.4 Sound technical proposal developed and submitted for Global Fund Round 11 funding Description: TB CARE staff spend considerable time with the Global Fund process at the country level, serving on panels to identify priorities and conduct gap analysis, reviewing expression of interests from potential sub-recipients and in the proposal development itself.	Submitted , not approved	2010	Submitted and approved	2012	Not applicable	This indicator is no longer applicable as the Global Fund R11 was cancelled. However, TB CARE I recruited a consultant, Dr. Léopold Blanc, who drafted a Sustainability Plan for NTP considering current and projected funding scenario. This document was presented and reviewed during the Joint Program Review in August 2012 (#7.1.4). Report of the Joint Program Review and Sustainability Plan will be used as reference documents for mobilizing additional resources for the TB program.	NTP is heavily reliant on the Global Fund Round 7 grant, which will come to an end in March 2014. NTP partners including TB CARE I will continue to support efforts to mobilize resources from additional source of funding including through increased Govt. contribution.






Technical Area		7. M&E, OR and Surveillance					Highlights of the Quarter	Challenges and Next Steps to Reach the Target
Expected Outcomes	Outcome Indicators	Baseline		Target		Result		
		Data	Year	Data	Year	Y1		
7.1 Strengthened TB surveillance	7.1.1 An electronic recording and reporting system for routine surveillance exists at national and/or sub-national levels	No	2010	Yes	2012	No	During the quarter, Dr. Chay Sokun joined the TB CARE I team as the new MSH/TB CARE I local consultant for e-TB manager implementation. Two MSH staff visited Cambodia (Dr. Samuel Kinyanjui from 24 Sep- 15 Oct; Ms. Antonia Kwiecien from 1-15 Oct 2012) to provide orientation to the newly engaged MSH local consultant, complete the pending e-TB manager customization work, and train in-country staff on e-TB manager pilot implementation.	This activity has been delayed. However, with the new local staff in position and increased effort to speed up activities, it is expected that the 3 pilot sites will start using e-tb manager from Jan 2013 and expansion to the 8 remaining MDR-TB treatment sites will be completed within APA3 period.
	7.1.4 Joint Program Review of the NTP is conducted	No	2010	Yes	2012	Yes	TB CARE I team facilitated the second Joint Program Review (JPR) of the Cambodian National TB Program on 2-15 August 2012. The reviewers included about 20 external experts and 40 local experts from various international and national agencies. More than 100 people, including the Minister of Health, participated in the inauguration meeting on 2 August and dissemination meeting on 15 August. The reviewers formed eight teams and visited one pre-selected operational district each for the review. The reviewers had a series of meetings before and after the field visits to discuss the strengths and challenges of the program.	

7.2 Improved capacity of NTPs to analyze and use quality data for management of the TB program	7.2.3 A data quality audit at central level has been conducted within the last 6 months Indicator Value: Yes/No	No	2010	Yes	2012	Yes (6 operational districts during 2012)	Peer review of the TB program conducted in one randomly selected operational district (Tbong Khmun) from 23-28 July 2012. HIV testing rates of TB patients was low (35% versus over 80% at the national level) reportedly because of shortage of HIV test kits, inconsistencies between TB patient cards and HC register with regard to HIV testing were observed, some treatment outcomes were missing in the TB register (in Q1, Q2, 2011 cohort) and there was general misunderstanding about the definition of transfer out and transfer in.	Findings and recommendations of the review team (NTP and TBCARE I staff) for improvement were provided during the debriefing meeting with provincial TB and lab supervisor and deputy director of the Tbong Khmun operational district.
7.3 Improved capacity of NTPs to perform operational research	7.3.1 OR studies completed and results incorporated into national policy/guidelines Indicator Value: Number (of OR studies and instances reported separately)	NA	2010	2	2012	0	Four OR topics were identified during the OR training course in Feb 2012, protocol development completed for three of them. 1. PPM/CDOTs enhanced referral intervention trial is proceeding well 2. The elderly TB study is undergoing 2nd round of scientific and ethical review by WPRO. 3. The MDR-TB study was postponed by the CENAT 4. The Children study protocol is being simplified by JATA/KNCV	Could not be completed as planned. Delays partly because the studies are planned in the context of capacity building for NTP staff and partners who are already engaged with other tasks, and the challenges related to getting teams working in different organizations to set aside time and work together. OR is misperceived as an additional burden on over-stretched staff, instead of a core activity needed for program implementation and policy development.




Quarterly Activity Plan Report





1. Universal and Early Access			Activity Leader	Approved Budget	Cumulative Completion	Planned Completion		Cumulative Progress and Deliverables up-to-date
Outcome	Activity #	Activity				Month	Year	
1.1 Increased demand for and use of high quality TB services and improve the satisfaction with TB services provided (Population/ Patient Centered Approach)	1.1.1	ACF targeting high risk groups	WHO	41.855	 100%	Sep	2012	TB CARE I is supporting efforts of the national TB program (NTP) to improve MDR-TB case finding. Active case finding was conducted in over 14 provinces with high prevalence of MDR-TB suspects who are eligible (as "high risk") for screening but have low screening rate. Total of 180 MDRTB suspects benefited from this activity. Their sputum samples have been submitted for Xpert tests and culture/DST.
	1.1.2	Patient Centered Care	WHO	54.305	 100%	Sep	2012	Base line survey and intervention completed in earlier quarters. Two tools were implemented, Quote TB Light and Patients' Charter, in two operational districts (ODs) and four health centers. Endline survey planned for Oct-Dec 2012 using APA3 funds.
	1.1.3	NTP Manual	WHO	12.351	 100%	Sep	2012	An external consultant, Dr. Kalpesh Rahevar, worked with WHO/TB CARE I team to update the comprehensive NTP manual from 22 August to 6 September 2012. PMDT component was updated and translated as a separate guideline document. SOP on MDR-TB management was also drafted, based on the PMDT guidelines.
	1.1.4	Childhood TB	JATA	101.913	 100%	Sep	2012	TB CARE I is supporting activities to strengthen the management childhood TB in 17 ODs with 18 referral hospitals, particularly to improve access to and quality of TB diagnosis in children. During this quarter, 9076 (F=4417) childhood TB suspects were referred from communities and health centers to the referral hospitals for further evaluation - physical examination, tuberculin skin test and X-ray examination. Of those referred, 1045 children (F=496) were diagnosed with TB and referred back to health centers to initiate treatment. To improve the diagnostic skills of TB physicians, a clinical training course was held on 22-23-24 August 2012 at CENAT, Phnom Penh. 42 TB physicians (F=5) from 17 hospitals attended the course.
	1.1.5	Diagnostic capacity improvement	JATA	128.466	 100%	Sep	2012	This quarter, the team made field visits to all referral hospitals under TBCARE I coverage area to: 1) cross- check x-ray film readings made by referral hospital doctors and 2) provide on the job training for x-ray reading. During the quarter, 1028 TB smear negative TB suspects were referred by health centers to the referral hospitals (RH) for further evaluation and x-ray examination. Of those, 369 cases were diagnosed as smear negative TB. The quality of x-ray reading has improved. The agreement rate in reading of x-rays between RH doctors and cross reader is 86.5% compared to 81.5% agreement rate in the previous quarter
	1.1.6	Digital X-ray	JATA	82.031	 100%	Sep	2012	Digital x-ray (CR system) is being used at CENAT hospital for routine use and operational research. Since it is computerized, x-ray image has been kept for training purpose. The machine was used to take chest x-rays of 692 patients during the quarter





	1.1.7	Quality Improvement	FHI	42.449	 100%	Sep	2012	Quality Improvement (QI) principles were applied in five health centers of Kampong Cham starting in Oct 2012. Participating facilities identified low arrival rates of TB suspects referred by community DOTS watchers (DW) and private providers (PP) as their main challenge, proposed solutions, and implemented changes for improvement. During the quarter, 85% of TB suspects referred by DW and PPs reported to the health centers. As a result, 90 cases of TB, including 23 smear positive cases, were diagnosed. Figures in photo section show the trend in referrals and cases notified over the past 3 quarters. The number of TB cases notified through routine activities declined this quarter due to active case finding campaign conducted by CENAT team. Consultation with local authorities was held on 30 August 2012 to agree on a scale up plan to cover all health centers (HC) in two operational districts of Kampong Cham
	1.1.8 (MoT)	Procure PPD for tuberculin tests	WHO	13.558	 100%	Sep	2012	New activity approved through MoT. Completed procurement of PPD from Staten Serum Institute, Copenhagen and distributed to child TB project sites.
	1.1.10 (MoT)	Video documentary on key TB CARE I activities	FHI	22.083	 25%	Dec	2012	New activity approved through MoT. Began preparations for producing two videos of TB CARE I activities. The first video will be about SAKSIT TB-IC communications campaign and the communication materials produced that can be used as during trainings for users of the materials as well as to provide information on TB. Operations of the SMS system and the results will be built into the second video. The second video will provide information how MDR-TB is acquired, what the symptoms are and the diagnostic and treatment process through the story of a cured MDR-TB patients.
	1.1.11 (MoT)	Consultancy to develop a sustainability plan for the NTP	FHI	24.447	 100%	June	2012	New activity approved through MoT. Completed. TB CARE I recruited a consultant, Dr. Léopold Blanc, who visited Cambodia from 28 May-8 June 2012. Dr. Blanc met and consulted with senior government officials including the Minister and Secretary of Health, potential and existing donors like USAID, AusAID, KOICA, as well as NGO partners to draft a sustainability plan for NTP to deliver essential TB services considering current and projected funding scenario. This Plan was presented and reviewed during the Joint Program Review in August 2012 (#7.1.1).
Outcome	Activity #	Activity	Activity Leader	Approved Budget	Cumulative Completion	Month	Year	Cumulative Progress and Deliverables up-to-date
1.2 Increased quality of TB services delivered among all care providers (Supply)	1.2.1	Prisons	FHI	89.635	 100%	Sep	2012	Series of quarterly coordination meetings to review TB/HIV services in prisons was held on 22 Aug in Preah Sihanouk, 24 Aug in Koh, 31 Aug in Kampong Cham and 21 Sep in Kampong Speu province. 92 participants (9 females) including representatives of the TB and HIV program from national, provincial and operational district (OD) level as well as the General Department of Prisons joined the meetings. Key issues discussed and agreed upon includes (i) support from health post to cell leaders in identifying TB suspects and supervising sputum collection, (ii) strengthening OD and HC supervision to the prison health post (iii) ensure TB screening and HIV testing for new inmates. During the quarter, 30 TB patients (21 of them smear positive) were diagnosed through routine case finding activities in the seven prisons supported by TB CARE I.



	1.2.2	PPM - Implementation	FHI	88.717	 75%	Sep	2012	PPM implementation is going on smoothly in six of the seven provinces covered by TB CARE I. The lack of clear leadership and divided responsibilities for PPM between several staff in Kg Cham provincial health department continues to be a challenge. During the quarter, PPM coordination meetings were helped as planned in Phnom Penh, Kg Cham, Kandal and Takeo. Provincial level PPM annual workshop was organized by Phnom Penh Municipality on 12 Sept at Phnom Penh with the participation of 102 (32 F) private and public providers and NTP staff. In addition, initial training for new private providers was organized at Sa-Ang, Kandal on 3-4 Sep. 15 participants (2 F) attended the training. Figure in photo section shows the number of TB suspects referred by private providers, received at public health facilities and the number of TB cases. 73 cases of TB were diagnosed during the quarter bringing to total 318 cases of TB diagnosed through PPM referrals from 16 ODs during this fiscal year.
	1.2.3	PPM - Advocacy (PAC)	FHI	35.760	 100%	Sep	2012	In an effort to simplify referral of TB suspects by private providers, the PPM referral slip was revised to make it shorter and stamps to be used by private providers produced so they can just stamp on the slips without having to write their contact details every time referrals are made. Also during the quarter, the first consultation workshop with national hospitals in the country was held on 11 Sept 2012 at Phnom Penh with participation from 57 staff (11 F) of national hospitals, diabetic clinics, select private hospitals and concerned NTP staff. The workshop achieved its objective to sensitize the participants on the role of national hospitals in TB control, to develop a plan for streamlining and improving the management of TB patients in hospitals and strengthening linkages of hospitals, including the diabetes clinics, with the NTP. This will be further pursued in APA3
Outcome	Activity #	Activity	Activity Leader	Approved Budget	Cumulative Completion	Month	Year	Cumulative Progress and Deliverables up-to-date
1.3 Reduced patient and service delivery delays (Timing)	1.3.1	IT-SMS project (InSTEDD)	FHI	20.761	 100%	Sep	2012	InSTEDD, the IT company that helped develop the SMS system continues to provide maintenance support for the web based application during the transition to CENAT/TBCARE I server.
	1.3.2	IT-SMS project (FHI)	FHI	30.293	 100%	Sep	2012	The number of sputum smear tests registered in the system decreased from 641 in previous quarter to 626 tests during Jul-Sep 2012. However, the proportion of sputum smear test results delivered using the SMS system increased from 85% in the previous quarter to 97% this quarter. The turnaround time for sputum smear test results has decreased dramatically over time - from 15 days in the first three months (Dec-Feb) to only 4 days during this quarter. Between 20-23 August, FHI 360/TB CARE I team conducted an internal review to identify the key achievements and challenges of the SMS project for development of a scale-up plan.
					 93%			




2. Laboratories			Activity Leader	Approved Budget	Cumulative Completion	Planned Completion		Cumulative Progress and Deliverables up-to-date
Outcome	Activity #	Activity				Month	Year	
2.1 Ensured capacity, availability and quality of laboratory testing in country	2.1.1	EQA-sputum microscopy	JATA	58.861	100%	Sep	2012	During the quarter, NTP established three new TB microscopy centers in TB CARE I supported sites - so the total coverage is now 86 TB microscopy centers in nine provinces. The increase in TB lab is expected to ease the high workload of TB lab technicians in some centers and improve geographic access to the labs. During this quarter 83 TB lab centers participated in the EQA exercise. 92% (76/83) of participating labs performed with over 95% correct results.
Outcome	Activity #	Activity	Activity Leader	Approved Budget	Cumulative Completion	Month	Year	Cumulative Progress and Deliverables up-to-date
2.2 Ensured the availability and quality of technical assistance and services	2.2.1	Technical assistance - lab aspects	JATA	17.857	100%	Sep	2012	Mr. Tetsuhiro Sugamoto from RIT/JATA, Tokyo visited Cambodia from 17-30 September to provide on the job training on media preparation for DST for second line drug and begin preparation for the evaluation of Fluorescence microscopy and Xpert implementation planned for 2013. The training on media preparation for DST was conducted in two batches: 19 - 20 Sept and 25-26 Sept 2012. Eight staff (4 Females) of the NTRL and partner organization attended the training. Two other lab trainings were held during the quarter (I) Training on sputum smear microscopy for new lab technicians was held on 17-21 Sept 2012 CENAT, Phnom Penh. 13 lab technicians (F=1) joined the training. (ii) Refresher training on Fluorescence Microscopy was conducted on 1-14 September 2012. 19 lab technicians (F=8) attended the course.
Outcome	Activity #	Activity	Activity Leader	Approved Budget	Cumulative Completion	Month	Year	Cumulative Progress and Deliverables up-to-date
2.3 Ensured optimal use of new approaches to the laboratory confirmation of TB and incorporation in national	2.3.1	GeneXpert pilot	JATA	98.780	100%	Sep	2012	The two GeneXpert machines are used as primary diagnostic tests for target groups (MDR, TB/HIV, high risk groups) and for OR at CENAT and Battambang referral hospital. This quarter (Quarter 3, 2012), 1058 suspects were tested with Xpert MTB/RIF. Among those, 212 (20%) had MTB positive and 27(2.6%) were also shown to be resistance to RIF. For RIF positive cases, patients are started on empiric treatment with second line drugs but the diagnosis will be confirmed with DST.
	2.3.2	LED microscopy	JATA	57.594	100%	Sep	2012	Currently, 19 LED Fluorescence Microscopes are functioning at laboratories of central and provincial hospitals with high work load and/or with high HIV prevalence. This quarter, TB CARE I made field visits to distribute the reagent for LED microscopy.
					100%			





3. Infection Control			Activity Leader	Approved Budget	Cumulative Completion	Planned Completion		Cumulative Progress and Deliverables up-to-date
Outcome	Activity #	Activity				Month	Year	
3.2 Scaled-up implementation of TB-IC strategies	3.2.1	TB-IC: Implementation	FHI	19.420	 75%	Sep	2012	A two day-training of trainers on effective communication skills and on using SAKSIT educational tools and were conducted on 3-4 July 2012 at Chamkarleu OD and on 16-19 July 2012 at Kampong Cham OD. 78 participants (21 F), mostly staff of the health centers attended the training. These trainers, supported by facilitators from TB CARE I and NTP TB supervisors, were then used for series of cascade training to the C-DOTS watchers from their operational districts - 10-12 July 2012 at Chamkar Leu OD and 23-30 July 2012 in Kampong Cham OD. 225 C-DOTS watchers (105 female) attended the training at 14 HCs of Chamkar Leu OD and 572 C-DOTS watchers (226 female) attended the trainings at 23 HCs of Kg Cham OD. SAKSIT educational tools such as X-Stands; posters, flipcharts; hand hygiene stickers, logos, SAKSIT masks and X-stand stickers were distributed during the training.
	3.2.2	TB-IC: Communications strategy	FHI	20.784	 75%	Sep	2012	Implementation of the branded TB-IC communication strategy "SAKSIT" is progressing well. Besides the communications tools already distributed, shooting for the TB educational comedy video, part of the SAKSIT TB-IC campaign is expected to begin in October after the contract with video company is signed, and storyboards, locations, actors are finalized. Also during the quarter, data analysis and report of the baseline SAKSIT survey was completed.
					 75%			


4. PMDT			Activity Leader	Approved Budget	Cumulative Completion	Planned Completion		Cumulative Progress and Deliverables up-to-date
Outcome	Activity #	Activity				Month	Year	
4.1 Improved treatment success of MDR	4.1.1	PMDT- joint supervision (TB CARE & CENAT)	WHO	22.374	 100%	Sep	2012	Joint supervision of WHO/TB CARE, CENAT and Cambodia Health Committee (CHC) is being done from the <u>national level</u> regularly to at least 8 MDR-TB treatment sites, 15 provinces and 20 drug resistant-TB patients' homes every quarter. More patients are covered in different quarters, in rotation.
	4.1.2	PMDT- Sputum transportation	WHO	31.640	 100%	Sep	2012	Sputum of more than 1000 MDR-TB suspects were collected and transported for Xpert, culture and DST for diagnosing MDR-TB from all three culture centers (CENAT, Kampong Cham and Battambang). We have been able to screen significantly higher number of MDRTB suspects this year compared to previous years.
	4.1.3	PMDT-ToT	WHO	17.148	 100%	Dec	2011	Facilitated by Dr. Mamel Quelapio from WHO/WPRO, clinical training on PMDT was organized from 12-16 December 2011 at Phnom Penh. 67 participants (19 female) from different MDR-TB treatment sites in the country attended the training.
	4.1.4	PMDT - supervision by CHC	WHO	14.883	 100%	Sep	2012	Every month, the MDR-TB program manager and clinicians of CHC visit at least 3 treatment sites and 10 patients in both hospital and community. In addition, field nurse monitors and pharmacists of CHC visit at least 122 patients' homes every month. This intensive support to MDRTB patients is one of the main reasons for the high treatment success rates of MDRTB patients in Cambodia, thus minimizing transmission of infection, deaths and XDRTB.






	4.1.5	PMDT- enablers during treatment (CHC)	WHO	123.816	 100%	Sep	2012	About 137 MDRTB patients get monthly support (enablers) for the DR-TB treatment and travel to hospitals for periodic follow-up. This is another of the main reasons for the high treatment success rates of MDRTB patients in Cambodia.
	4.1.6	PMDT- ancillary drugs and supplies	WHO	18.916	 75%	Sep	2012	Orders have been placed for the ancillary drugs and medical supplies through the WHO procurement mechanism.
	4.1.7	PMDT - Staffing & Operations cost	WHO	42.471	 100%	Sep	2012	The support for staffing and operations of Cambodia Health Committee, a local NGO that is providing support for PMDT, is ongoing.
					 96%			





5. TB/HIV			Activity Leader	Approved Budget	Cumulative Completion	Planned Completion		Cumulative Progress and Deliverables up-to-date
Outcome	Activity #	Activity				Month	Year	
5.2 Improved diagnosis of TB/HIV co-infection	5.2.1	HIV testing of TB patients	WHO	45.200	 100%	Sep	2012	TB CARE I is supporting 22 operational districts to perform routine HIV testing for diagnosed TB patients. In 2011 (Jan-Dec), 82% of registered TB patients in the country has HIV results recorded in the TB register.
					 100%			

6. Health Systems Strengthening			Activity Leader	Approved Budget	Cumulative Completion	Planned Completion		Cumulative Progress and Deliverables up-to-date
Outcome	Activity #	Activity				Month	Year	
6.2 TB control components (drug supply and	6.2.1	NTP partner coordination	All	600	 100%	Sep	2012	TB CARE I team participated in technical working group meetings of lab (27 July at CENAT, Phnom Penh) and PMDT (28 Sept at CENAT, Phnom Penh).
	6.2.2	Resource Mobilization	All		 100%	Sep	2012	TB CARE I team assisted the country to apply for Wave 2 and Wave 3 funds from TBREACH for active case finding of TB among high risk groups.
					 100%			

7. M&E, OR and Surveillance			Activity Leader	Approved Budget	Cumulative Completion	Planned Completion		Cumulative Progress and Deliverables up-to-date
Outcome	Activity #	Activity				Month	Year	
7.1 Strengthened TB surveillance	7.1.1	Joint NTP review	WHO	41.189	 100%	Aug	2012	TB CARE I team facilitated the second Joint Program Review (JPR) of the Cambodian National TB Program on 2-15 August 2012. The reviewers included about 20 external experts and 40 local experts from various international and national agencies. More than 100 people, including the Minister of Health, participated in the inauguration meeting on 2 August and dissemination meeting on 15 August. The reviewers formed eight teams and visited one pre-selected operational district each for the review. A report has been drafted and is currently being circulated for comments. Once finalized, it will be posted on CENAT website and disseminated widely.
	7.1.2	Drug resistance surveillance	JATA	18.000	 50%	Sep	2012	TBCARE I is supporting this activity to gather information on drug resistance pattern in the country to better inform policies such as the design of empiric treatment regimen for MDR-TB. As mentioned in 2.3.1, 27 cases of MTB and RIF resistance were identified during the quarter through Xpert tests. Culture and DST will be performed to confirm the diagnosis and resistance pattern.
	7.1.3	Begin implementation of e-TB manager for PMDT/Second Line Drugs (Year 1 of 2)	MSH	49.894	 100%	Jan	2012	Dr. Luis Gustavo do Valle Bastos from MSH/TB CARE I visited Cambodia from 16-20 Jan 2012 to formally initiate e-TB manager tool customization process for Cambodia. a) Key changes required to tailor the e-TB manager tool to meet the needs of the MDR-TB guidelines of the country were identified and discussed with the CENAT team during the visit. b) Customization of the Cambodia e-TB manager with their specific request identified during the above mentioned visit is ongoing.
	7.1.4	Test initial e-TBM version to identify potential bugs and need for further adjustments	MSH	45.314	 75%	Jul	2012	<p>This is being conducted remotely by the MSH team based in the US and Brazil in cooperation with the WHO staff (Khan Sokhan) in Cambodia.</p> <p>During the quarter, Dr. Chay Sokun joined the TB CARE I team as the new MSH/TB CARE I local consultant for e-TB manager implementation, and two MSH staff visited Cambodia (Dr. Samuel Kinyanjui from 24 Sep- 15 Oct; Ms. Antonia Kwiecien from 1-15 Oct 2012) to provide orientation to the newly engaged MSH local consultant, complete the pending e-TB manager customization work, and train in-country staff on e-TB manager pilot implementation. Further customization was done in country by MSH international team (Samuel and Antonia):</p> <ol style="list-style-type: none"> 1. Five days e-TB manager Cambodia work space review with MSH local consultant , WHO DR-TB coordinator, CENAT e-TB manager focal persons 2. Presentation of the revised Cambodia e-TB manager to the MDR-TB technical working group (TWG) chaired by CENAT director 3. Further changes to the site as requested and discussed with the TWG, key CENAT program staff and WHO DR-TB coordinator. 4. As per DR-TB TWG request, e-TB manager TWG members were included in the training (below) to enable them to understand the tool, evaluate it and guide final customization. The skills learned will enable them to revise, approve the pilot version and support pilot implementation (training, mentorship & monitoring)

	7.1.5	On-site pilot w/ selected TB units	MSH	56.819	 25%	Dec	2012	<p>Staff from two of the three pilot sites participated in the Training of Trainers (ToT) held at Kampong Cham from 9-11 Oct 2012. 15 staff (F=2) from NTP and CHC attended the ToT.</p> <p>a) e-TB Manager implementers in-country training for health workers from pilot units & TWG members. This activity was postponed to Dec 2012 to allow translation of tools and guidelines to Khmer (local language).</p> <p>b) Pilot start-up: planned for 3 MDR-TB treatment sites and 4 laboratories will run from December 2012 to June 2013. Quarterly assessments are planned to provide feedback for MSH team and TWG.</p> <p>c) Final adjustments and further customizations performed; Cambodia eTB Manager implementation version approved by TWG; Training of trainers sessions to selected staff countrywide conducted; Training on IT issues (country server, system structure/operation, system maintenance/corrections) conducted; and Final implementation (roll-out) plan developed and approved by TWG.</p> <p>e) Expansion of the Cambodia eTB Manager implementation version to all 11 MDR-TB treatment sites countrywide.</p>
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Outcome	Activity #	Activity	Activity Leader	Approved Budget	Cumulative Completion	Month	Year	Cumulative Progress and Deliverables up-to-date
7.2 Improved capacity of NTPs to analyze and use quality data for management of the TB program	7.2.1	NTP peer-review	FHI	9.467	 100%	Sep	2012	Peer review of the TB program conducted in one randomly selected operational district (Tbong Khmun) conducted from 23-28 July 2012. HIV testing rates of TB patients was low (35% versus over 80% at the national level) reportedly because of shortage of HIV test kits, inconsistencies between TB patient cards and HC register with regard to HIV testing were observed, some treatment outcomes were missing in the TB register (in Q1, Q2, 2011 cohort) and there was general misunderstanding about the definition of transfer out and transfer in. One of the three randomly health centers, Anh Cheem, was identified to have poor recording & reporting practices – inconsistencies between different data sources, misplaced TB treatment cards etc. Findings and recommendations for improvement were provided during the debriefing meeting with provincial TB and lab supervisor and the OD deputy director.
	7.2.2	Website development	FHI	9.613	 100%	Sep	2012	Website development for the NTP was completed and launched on 29 June 2012- www.cenat.gov.kh.
	7.2.3 (MoT)	Participation in the 2012 UNION TB conference	JATA	11.025		Dec	2012	New activity approved through MoT. This travel is planned for three TB CARE I staff (JATA, WHO, FHI) and to attend the UNION TB conference at Kuala Lumpur from 13-17 Nov 2012. They will make three poster presentations during the conference - on TB/HIV in prisons, contact tracing and active case finding
Outcome	Activity #	Activity	Activity Leader	Approved Budget	Cumulative Completion	Month	Year	Cumulative Progress and Deliverables up-to-date
7.3 Improved capacity of NTPs to perform operational research	7.3.1	OR workshop: develop protocol and implementation plans	KNCV	32.879	 100%	Feb	2012	TB CARE I organized Operational Research (OR) training course & research proposal development from 13-17 February 2012 at Phnom Penh. Dr. Ellen Mitchell and Dr. Jacques Van den Broek from KNCV, and Dr. Nobuyuki Nishikiori from WHO regional office were the course faculty members. 23 participants (6 females) from CENAT and NGOs supporting the NTP, participated in the training and identified four OR topics. Local mentors for each of the four team were identified to lead and guide the teams in finalizing the proposal and during implementation.
	7.3.2	OR workshop: report writing including data analysis	KNCV	39.170	 0%	Sep	2012	This was planned to be a follow-up workshop for participants who have successfully proceeded with the study and have datasets available for analysis and report writing. Of the four topics identified during the first workshop, one study has proceeded to start data collection in Oct (enhanced referral strategy). The elderly TB study is delayed as additional funding needed for the study could not be secured. The MDR-TB and childhood TB study were stalled as they were later considered to be of low priority or because participants were unable to allocate time for the study.
	7.3.3	OR: operational costs including remote TA	KNCV	74.783	 50%	Sep	2012	Dr. Ellen Mitchell and Dr. Jacques Van den Broek from KNCV are in touch with students of the OR course, via Skype call and emails, to provide remote technical assistance as needed. Operational costs budgeted for the studies could not be spent for the reasons stated in 7.3.2

	7.3.4	OR on PPM	FHI	25.720	 50%	Sep	2012	The OR protocol was finalized and ethical approval sought and obtained in the previous quarter. During the quarter, development of tools needed for the research was completed (revised registers, referral process for high risk groups, contact tracing forms) and series of briefings organized for health center staff, private providers and Community DOTS watchers in Kampong Cham OD and Chamkar Leo OD (during the routine PPM and C-DOTS meeting) to start implementation of enhanced referral strategy (to identify and refer all high risk groups for TB) through PPM and C-DOTS network. Data collection will begin from October 2012
	7.3.5	International travel	FHI	10.684	 0%	Sep	2012	This travel is planned for TB CARE I and NTP staff to attend the UNION TB conference at Kuala Lumpur from 13-17 November 2012. In addition to 3 poster presentations (#1.1.11) TB CARE I has been invited as a speaker to present on experience with childhood TB in Cambodia.
	7.3.6	OR: IPT in children	JATA	16.235	 50%	Sep	2012	Two operational districts (OD) began implementation of Isoniazid Preventive Therapy (IPT) during the quarter bringing to total three ODs that are now piloting IPT in children - Kong Pisey OD in June 2012; Prey Veng OD in July 2012 and Kg Cham OD in Sept 2012. Prior to the launch, a workshop was organized at Prey Veng and Kg Cham ODs with participation of 114 staff (F=24) from provincial health department, referral hospital and health centers. Children in close contact with smear positive TB patients, aged less than 5 years old, and healthy, are offered IPT for 6 months. Using this criteria, Kong Pisey OD identified 66 children (F=35) eligible for IPT during the quarter and started them on treatment
					 62%			

Quarterly MDR-TB Report

Country	Cambodia
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Period	July-September 2012
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MDR TB cases diagnosed and put on treatment in country

Quarter	Number of MDR cases diagnosed	Number of MDR cases put on treatment	Number of lab confirmed MDR cases put on
Jan-Dec 2010	31	41	
Jan-Sep 2011	31	47	
Oct-Dec 2011	25	36	28
Total 2011	56	83	
Jan-Mar 2012	29	37	31
Apr-Jun 2012	18	28	18
Jul-Sep 2012	35	39	34
Total 2012	82	104	83

Quarterly GeneXpert Report

Country	Cambodia
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Period	July-September 2012
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Table 1: GeneXpert instruments and cartridges procured or planned by quarter

	Procured			# still planned for procurement in APA 2	Month, Year procurement planned (i.e. April 2012)
	Jan-Dec 2011	Jan-Sept 2012	Cumulative Total		
# GeneXpert Instruments	2	1	3		
# Cartridges	2000	4820	6820		

Table 2: Cumulative List of GeneXpert Instruments Procured to Date or Planned in the Next Quarter

Already procured or still planned? (i.e. Write "Procured" or "Planned")	Instrument	# of Modules (1, 2, 4, or 16)	Location(s) (facility name & city/ province or TBD)	USG Funding Source (e.g., PEPFAR COP FYxx, USAID) ¹	Partner/ Implementing Organization; Additional Comments
Procured	1	4	CENAT, Phnom	USAID	JATA/NTP Cambodia
Procured	2	4	Battambang	USAID	JATA/NTP Cambodia
Planned	3	4	TBD	USAID	JATA/NTP Cambodia
	4				
	5				
	6				
	7				
	8				

¹ Differentiating between PEPFAR and USAID-funded is important. If it is PEPFAR funded, specify the fiscal year (i.e. FY2011). Add rows if there are more than 8 instruments in total.

Table 3: Cumulative Xpert MTB/RIF Cartridges Procured to Date or Planned for Next Quarter

Already procured or still planned? (i.e. Write "Procured" or "Planned")	Order #	# of Cartridges*	Location(s) (facility name and city/ province or TBD)	USG Funding Source (e.g., PEPFAR COP FYxx, USAID) ¹	Comments
Procured	1	2000	CENAT/NTP	USAID	
Procured	2	4820	CENAT/NTP	USAID	
	3				
	4				
	5				

*There are 10 cartridges per kit, but we need the total # of **cartridges** (not kits)
Add an additional row for every procurement order of cartridges

Any additional information/clarifications to the above (optional)

This quarter, TB CARE I completed procurement of one additional GeneXpert instrument and 4,820 cartridges planned for APA2

Please provide a brief description of any significant problems encountered in use of the GeneXpert machine(s) & Xpert MTB/RIF cartridges

One GeneXpert instrument procured in 2011 (still under warranty) has a problem with one of the four modules. The module has failed and cannot be operated. Already brought this to the attention of the local supplier and customer support of the manufacturer - Cepheid office in France.

Please describe technical assistance or evaluation of implementation activities performed and planned.

Quarterly Photos (as well as tables, charts and other relevant materials)

**Team review TB register during
MDR-TB Active case finding**

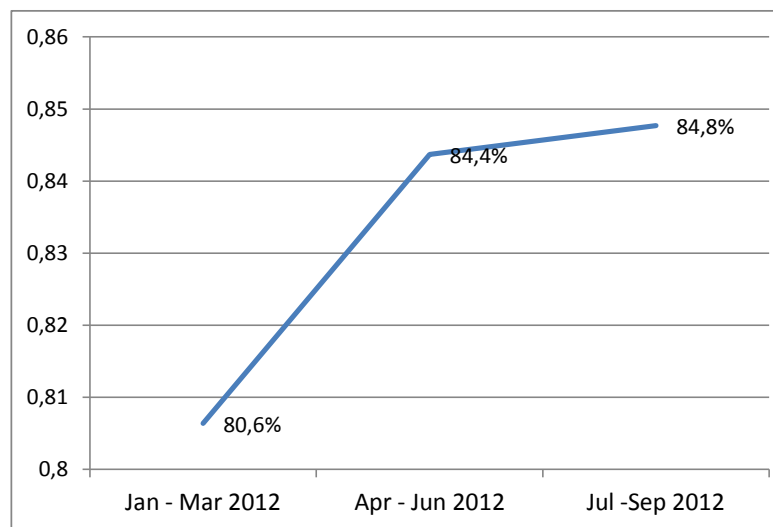


**Focus group discussion of patient center
approach (PCA)**

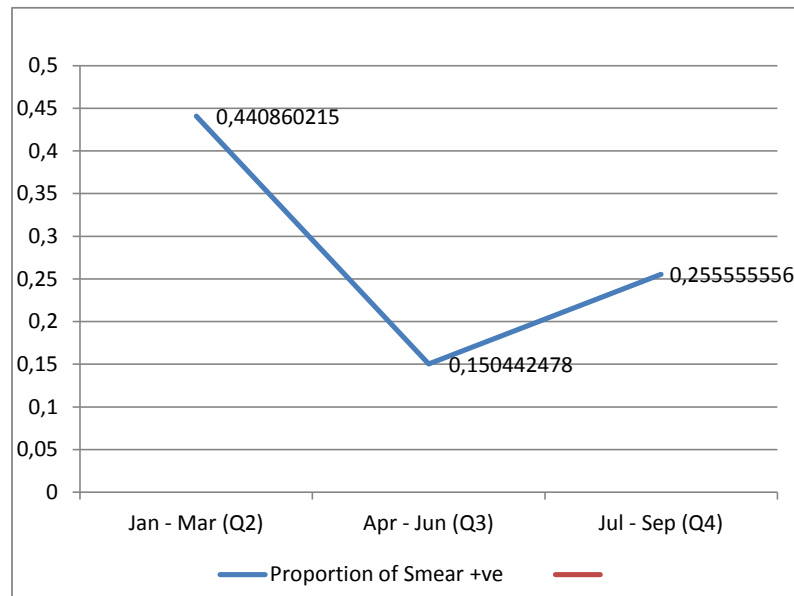


**Medical
follow up
did monthly
supervision
by MDR-TB
clinician
and nurse
at
community**

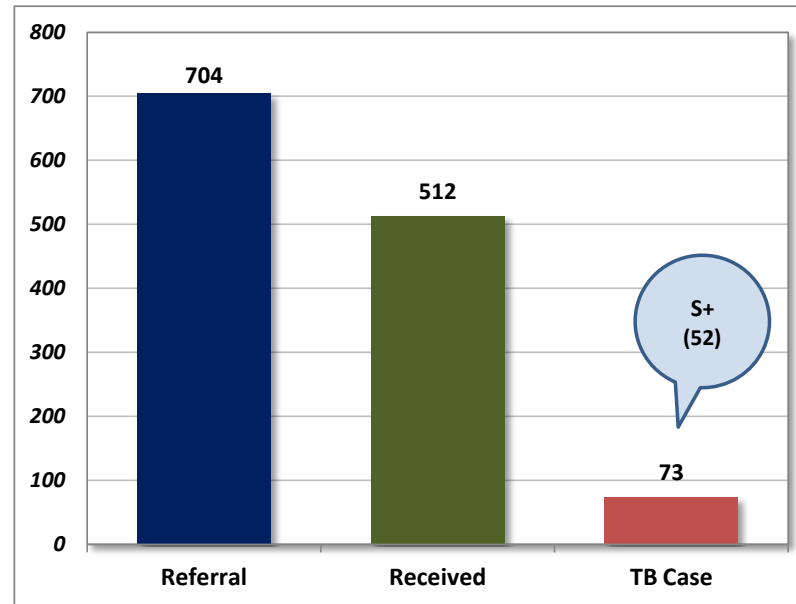
**Quality Improvement (Activity 1.1.7): Percent
referred TB suspects received at QI sites (successful
arrivals)**



Quality Improvement (1.1.7): Number of TB cases diagnosed at QI sites



PPM: Number referred, received and diagnosed as TB in 16 ODs (Jul - Sep, 2012)



Inventory List of Equipment - TB CARE I



USAID
FROM THE AMERICAN PEOPLE

TB CARE I

Organization:	TB CARE I
Country:	Cambodia
Reporting period:	July-September 2012
Year:	APA 2

Description (1)	ID numbers (2)	Acquisition date (3)	Acquisition cost (4)	V.A.T (5)	Location (6)	Condition (7)	Disposition date (8)	Title held by (9)	Insurance Policy #
Digital x-ray (CR system)	TBCARE 023	20-jul-12	41,732 USD	no tax	Cambodia NTP/CENAT	good			
Desk top computer	TBCARE 030-1	14. September	585.00 USD		Cambodia NTP/CENAT	good			
Desk top computer	TBCARE 030-2	14. September	585.00 USD		Cambodia NTP/CENAT	good			
Genexpert & cartridges	TBCARE 034	4 Aug. 2012	72,700 USD		Cambodia NTP/CENAT	good			
Tuberculin PPD	2.379	20 Sep 2012	EUR 9,251.40	0	Phnom Penh	good		CENAT	#1000005 (EUR 75 included in total cost)

(1) Description of equipment: transportation (vehicles), administration (computers, faxes), laboratory equipment or others

(2) Identification number (eg Manufacturer's serial number, model number, Federal stock number, national stock number)

(3) Date of invoice

(4) Total price including any sales tax paid. Use currency on invoice

(5) Note any sales tax charged

(6) Address

(7) Good/fair or bad

(8)+(9) Ultimate disposition data, (in the case of a vehicle) including date of disposal and sales price or the method used to determine current fair market value.

where a recipient compensated TB CARE I for its share. Attach supplementary info